



What is Content?

Where Will it Come From?

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IMTC Member Meeting 2007

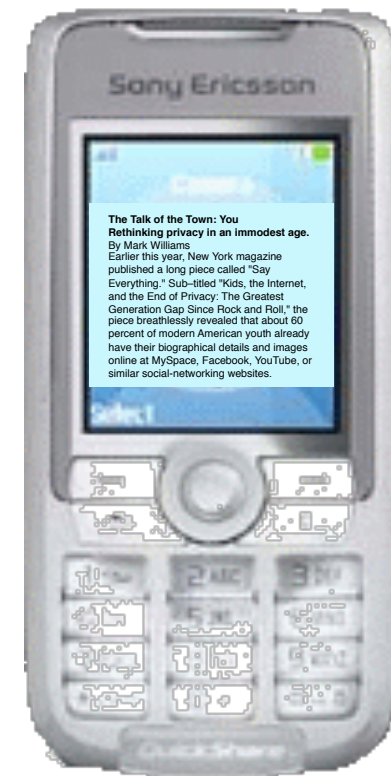
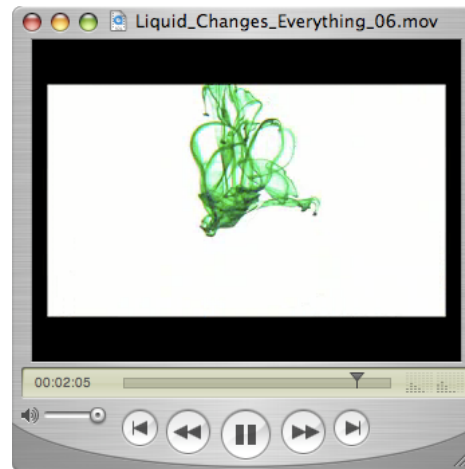
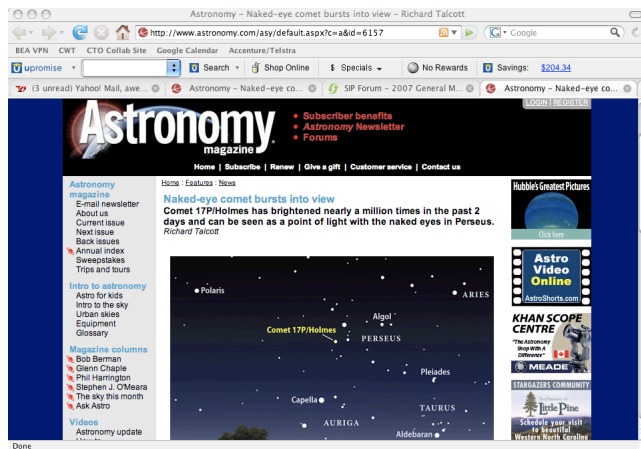


Questions Addressed Today



- What is Content, Physically?
- Is Web 1.0 Web 2.0?
- What is a Service Provider to Do?

Content Is...





Web 1.0: User Generated Content

- Self-published academic papers
- Information sharing (home pages, file sharing)
- Dynamic content (Web applications)
- Popular press forgot roots of web
 - ▶ Focus on mass market media as major web application
 - ▶ Self-bias?

The Web has always been about
User Generated Content



Web 2.0 “Classic”

- Opportunity to share user generated content (UGC)
 - ▶ MySpace
 - ▶ Flickr
 - ▶ LinkedIn
 - ▶ FaceBook
 - ▶ Yelp
 - ▶ Amazon (ratings)
 - ▶ Google (ranking)
- Wait! Original Web:
 - ▶ Document sharing!



Web 2.0: User Generated Applications

- Rich environment
- High interaction
- User-directed presentation
- User-integrated applications (mash-up)
- User-generated applications
 - ▶ Applets
 - ▶ Widgets



How Web 1.0 and 2.0 Applications Differ

- Web 1.0
 - ▶ Expert programmers: Java, Python, Perl, C++, etc.
 - ▶ J2EE, Containers, POJOs, RubyOnRails, etc.
 - ▶ Required ownership of application server or application server host
- Web 2.0
 - ▶ **End user** creates applications
 - ▶ Final application composition occurs at end user device or proxy
 - ▶ Tools and techniques to make it easy enough for
 - Joe Sixpack to create own iGoogle page
 - Jane Semicompetent to create widgets



Web 2.0 Matters

- Purist perspective: embodies original view of the Web
 - ▶ Users generating content (current hoopla in popular press)
 - ▶ Users generating applications (current hoopla in enterprises)
- UGC (user generated content)
 - ▶ Mechanism for collaboration
 - ▶ Add communications and get really cool collaboration, business processes, businesses
- UGA (user generated applications)
 - ▶ Ecosystem of applications
 - ▶ Realistic way to address long-tail of application space



Production Qualities

- Home movies
- Studio movies
- Where do these fall?
 - ▶ Star Wreck: In the Perkinning
 - ▶ Lonelygirl15
 - ▶ A Vision of Students Today



Bandwidth Matters

- Low Bandwidth
 - ▶ Blog
 - ▶ Wiki
- Rogue/Hack

- High bandwidth
 - ▶ Meatrix
 - ▶ YouTube
- Second life

Service Provider Challenges

Providing new services
to increase ARPU



Service Provider Challenges

Serving new customer segments and markets



Service Provider Challenges

Enabling faster
deployment of new services



Service Provider Challenges

Lowering OPEX



Service Provider Challenges

Responding to new competitors,
or I am a new competitor



Service Provider Challenges

Providing new multimedia services that blend features



Service Provider Challenges

Reducing cost to
deploy new services





What a Network Operator Has

- A network
 - ▶ Lots of connectivity
 - ▶ Central nodes
 - ▶ Management facilities
- Trust relationship with users
 - ▶ Subscribers
 - ▶ Enterprises
 - ▶ Application Service Providers
- Billing relationships and capabilities

All About Applications



What the Network
Operator Needs

Things that get people to use
the network



“Low Cost to Fail, Low Cost to Succeed”

-- Eric Burger, VON 2003

- Promise of stimulus / markup design model
 - ▶ Premise of IMS
- So easy to create applications, can explore solution space
- So easy to scale, can deploy if hit the big one
- Enables both focused market research and shot-gun approach
- Providers would be able to reach long-tail of market

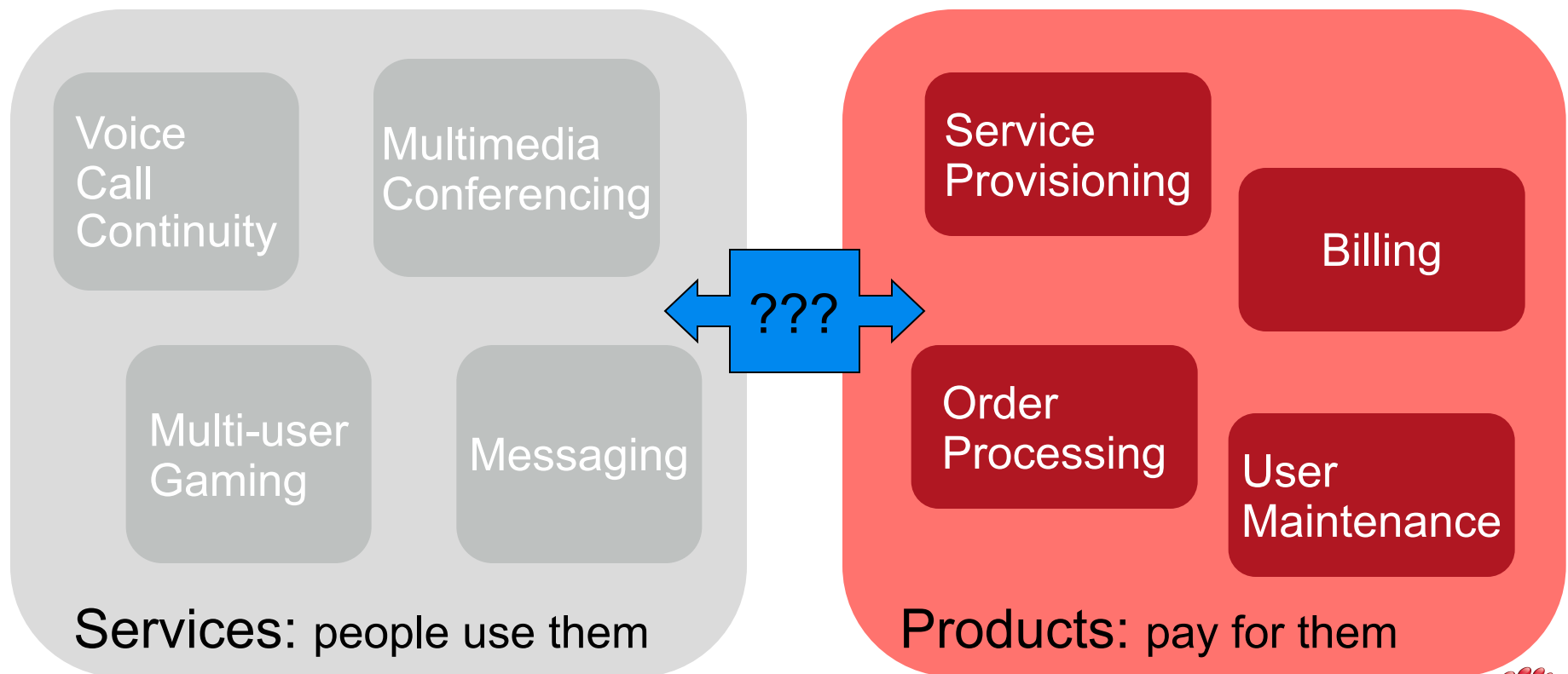


Classic Approach for Applications

- Network operator buys and deploys an application
 - Traditionally, from network equipment provider
 - More recently, from network software ISV
 - Even more recently, written by operator
- This is why we have the IMS
 - ▶ Application development cycle reduced from 18 months to 12 weeks
- So, why no application nirvana?

Product Deployment Problem

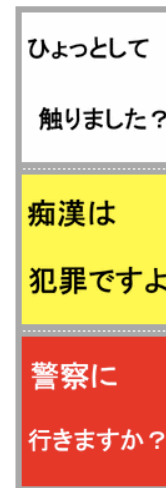
- IMS addresses service creation
- Still have 2-year product delivery times!



Service Providers / ISV's / NEP's cannot address long-tail

- Almost by definition, SP's are mass-market organizations
- Well-run organizations should focus on corporate focus (mass market)
- No killer application on the horizon
- Promise of IMS was to make it easy to explore solution space to discover killer application
- #2 Web Widget is?
- #7 Mobile application in Japan is?

•Anti-Groping Appli



<http://www.widgetbox.com/widget/baby-ticker>

http://appget.com/im/pc/apview_027103.htm



The Users of the Network Create Applications

- Many may look like (or become) companies in the end
- Many will be companies
- Many will be enterprises: SOX, HIPPA, BASEL II

The interesting application is:

Ability of **user** to create their **own** application, to **use** or **share**

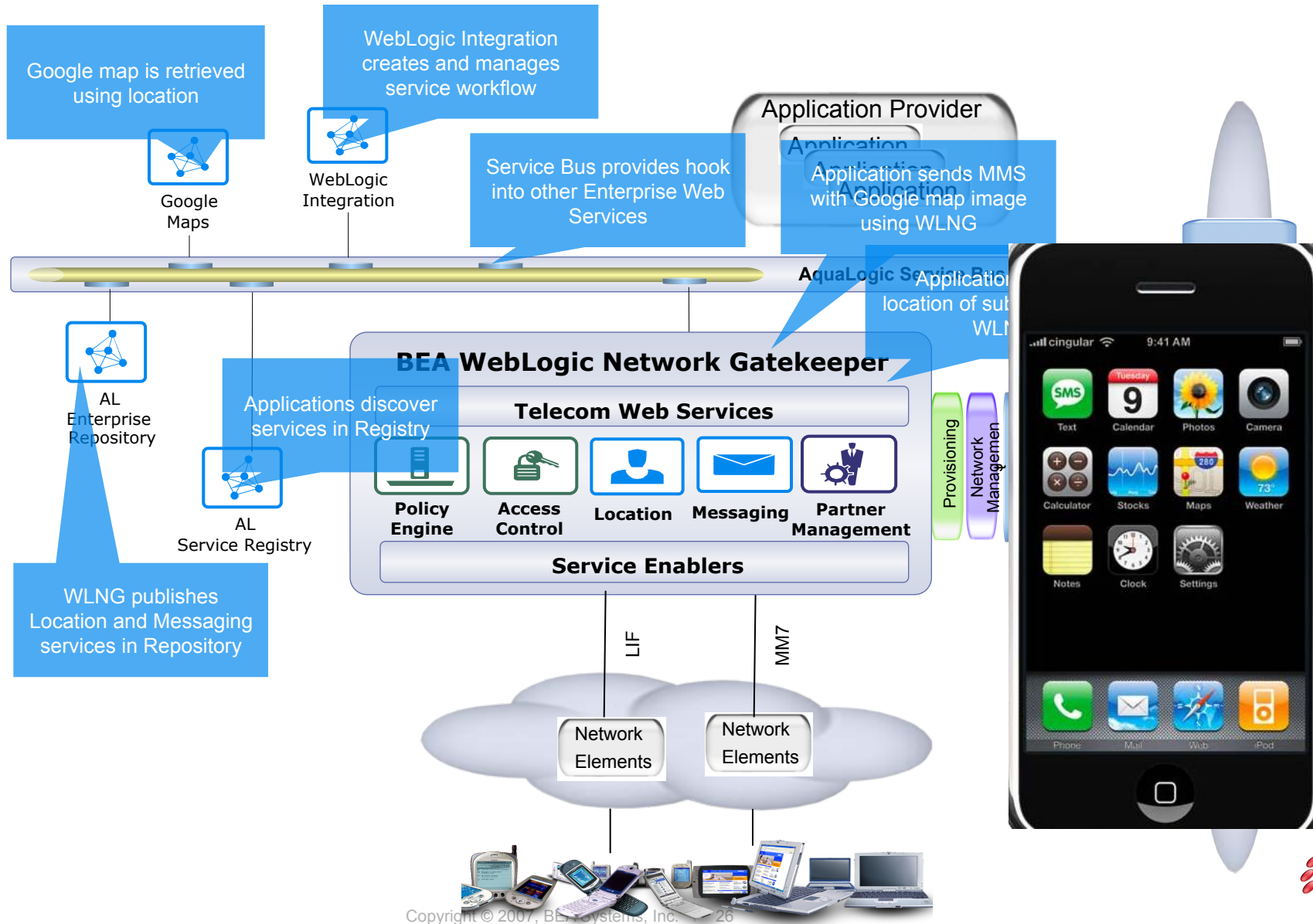
- What if we let ANYONE create applications?
 - ▶ What do we need to have to enable this?



User-Generated Applications are Not Trusted

- Web 2.0 is not only about
 - ▶ Service providers (self-trust) building their own applications
 - Although it greatly helps development (0.5 day versus 9 months)
 - Although it greatly helps development process (collaboration)
 - ▶ Integration of silo applications into OSS/BSS (self-trust)
 - Although SOA helps greatly here
 - ▶ Trusted ISV's building semi-custom applications for service providers
 - Although it greatly helps development
- Web 2.0 is about
 - ▶ Enterprise customers (only contractually trusted) having control of their applications and data
 - ▶ Users (not trusted at all) able to create their own applications

Service Example: Rich Services



Convergent Operator Trial



In Second Life, on the Island of Italian Operator, Avatar finds virtual phone (Alice First Life Communicator) and set up anonymous voice call (time limited) to real Mobile/Fixed number or send SMS

Summary



Web 2.0 is about UGC and UGA

CSP's cannot continue with "business as usual"

CSP's and ISV's cannot structurally address market

Opening network for new multimedia applications

Killer application is the environment



Thank You

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